the melter commences, who must understand how to the heat," that is to say, to achieve, the groatostpossiblo attack of heat on the bath without at tho same time injury to tho furnace. He observes the white-hoi, flame diligently through a coloured glass, whereby tho degroo of brightness of tho (lame gives an approximate scale for its temperature. In consequence of the changing outsido light, this is a very unsafe method of estimation of temporaturo, and it would fare badly for the durability of furnaces, if in practice yet another simple means of control had not boon found, it consists in the comparison of the brightness of tho llamo with tho furnaeo structure, especially the port blocks and roof arch. So long as the latter are cooler than tho flame, thoy aro darker than this, and stand clearly out against it in all their contours, and as long as this happens no danger is present. In proportion, however, as thoy begin to bo overheated, thoir degree of brightness approaches that of tho flame, their outlinon become indistinct and dlftleult to poreoive. AH noon an thin takes place, with a clean ilanio in tho furnace, danger is present, and it must be intercepted.

A skilled melter generally does not lot it eomo to this appearance, at least not HO long an tho direction of |,ho Jlaino is good, and normal working continues. Ho peremvon, tliat is to say, instinctively how tho heat roquiromcwt of the charge decreases and reduces tho supply of gus iutd air, in which case he still knows so to hold the Jlanio that it eovorn the entire upper surface of tho bath, and that tho temperature does not come into tho doseondont, but rathor riKOH. If ho is very skilled he will at tho same limit reduce the chimney draught, and in this manner deal really economically with fuel and furnace structure.

If, however, from whatsoever eonditioriH the furuiwui oneo is overheated and "burnt," then it in often not oiwy to find the proper remedy. Ono terms 4< burning11 Iho overheating of the refractory materials of which the port-hlockH and main roof are manufactured, up to above thuir molting point, no that they melt off, and begin to sink down in long "icidkw" into the bath. If it once happens tliat the molting point of the refractory bricks of the smooth covering surface of the